

NORTHERN REGION

Scenic Resource Mitigation Menu & Design Considerations For Vegetation Treatments

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Introduction

The objective of the Scenic Resource Mitigation Menu is to provide a variety of techniques to minimize impacts to the scenic resources and meet Land and Resource Management Plan direction. The menu is not all-inclusive, nor is it to be used as a cookie cutter for automatic inclusion into NEPA documents and timber contracts. Each project will have unique conditions (biophysical and/or social) and specific vegetation management objectives that must be met.

Contents borrow heavily from work done in Region 8. Since landscapes across the Northern Region are extremely diverse, ranging from grasslands to old growth forests, techniques are not associated with specific silvicultural prescriptions or designated objectives for scenery. Instead, design considerations are categorized by specific goals associated with treatment activities. The techniques listed can be applied under multiple silvicultural prescriptions and under the full range of scenic integrity objectives. The valued attributes of the specific landscape and the ability of that landscape to absorb proposed management changes will determine which design techniques to employ.

This menu is dynamic and will evolve as managers continue to learn from the results of applying these techniques. In addition, new technology and practices may emerge requiring adjustments or additions to this document. References used in developing listed design considerations and mitigation techniques are listed at the end of this document.

Need for Guidance

Translating objectives for scenery into practical on-the-ground actions has typically been the role of landscape architects in the forest service. As the Region continues to downsize, it is not always feasible to involve a landscape architect in every project. Although general concepts and techniques to mitigate impacts to scenery were developed in the 70s and are outlined in a series of landscape management handbooks, there is now a need for a more condensed and accessible reference.

This menu provides general guidance to the field on what types of design considerations are available and should be discussed in an IDT context. The menu includes commonly practiced techniques that have proven to be effective when appropriately applied. As stated in the introduction, this is simply a menu of techniques. Landscape attributes, resource values, and vegetation management objectives will drive which techniques are best suited for the specific landscape and treatment being proposed. The intent is for IDTs, regardless of the mix of specialized skills, to consider landscape management techniques in the planning, design, implementation and monitoring of vegetation treatments in the Region.

Menu of Design Considerations and Mitigation Measures

SHAPE OF INDIVIDUAL UNITS

The goal is natural appearing opening(s) when viewed individually and a natural appearing mosaic when viewed within the broader landscape.

1. Created openings and treatment units should not be symmetrical in shape.
2. Straight lines and right angles should be avoided.
3. Created openings should resemble the size and shape of those found in the surrounding natural landscape.
4. Treatments should follow natural topographic breaks and changes in vegetation.
5. Where small landforms exist, consider treating the entire landform rather than creating artificial lines and patterns.
6. Along roadways, vary unit sizes, widths, shapes and distance from the center line.

EDGES OF INDIVIDUAL UNITS

The goal is a natural appearing transition between treated and untreated vegetation.

7. Utilize natural breaks in topography and vegetation type to delineate treatment edges.
8. Edges will be shaped and/or feathered to avoid a shadowing effect in the cut unit.
9. Where the unit is adjacent to denser forest, the percent of thinning within the transition zone will be progressively reduced toward the outside edge of the unit. In addition, vary the width of the transition zone.
10. Where the unit interfaces with an opening, the percent of thinning within the transition zone will be progressively increased toward the outside edge of the unit. In addition, vary the width of the transition zone.
11. Soften edges by thinning adjacent to existing unit boundaries, removing taller, older trees and favoring younger ones. This will reduce a vertical wall effect.
12. Treatment boundaries should extend up and over ridgelines to eliminate the linear strip of trees above the treatment area. This is especially important along ridgelines silhouetted against the sky.
13. Avoid widely spaced trees that are silhouetted along the skyline.
14. Consider leaving single trees and/or groups of trees to visually connect with the unit's edges.

PATTERN CREATED BY MULTIPLE UNITS

The goal is a natural appearing mosaic of vegetation across the landscape.

15. Where multiple clear cuts are planned, vary the size and spacing across the project area.
16. Interlock individual openings to prevent a "floating" appearance.

COMPOSITION OF VEGETATION

The goal is to maximize diversity of species and age class that are within the landscape's natural range of variation/Forest Plan Desired Condition.

17. Where feasible, leave a diversity of species and age classes.
18. Leave healthy, wind throw resistant trees and groups of trees to add variety and interest.
19. A range of stem diameters should be left where compatible with project objectives.

ROAD, SKID TRAIL, and LANDING CONSTRUCTION

The goal is to minimize long-term visual impacts of access roads, skid trails, and landings.

20. Where feasible, locate and orient roads to minimize cut and fill.
21. Side cast topsoil during the construction of temporary roads and use for later obliteration and recontouring.
22. Where new access roads and skid trails meet a primary travel route, they should intersect at a right angle and, where feasible, curve after the junction to minimize the length of route seen from the primary travel route.
23. Where feasible, retain screening trees one tree-height below roads and landings (including cable landings) when viewed from below. Avoid creating a straight edge of trees by saving clumps of trees and single trees with varied spacing.
24. When viewed from above, retain, screening trees one tree-height above roads and landings and/or prescribe a higher leave basal area. Avoid creating a straight edge of trees by saving clumps of trees and single trees with varied spacing.
25. Log landings, roads, gravel pits, borrow areas, and bladed skid trails should be minimized within sensitive view sheds.
26. Cut and fill banks will be sloped to accommodate natural revegetation.
27. Cut and fill slopes will be revegetated with native species where ever possible.

SLASH TREATMENT

The goal is to minimize slash piles and residue that appears man-made.

28. Ensure slash is abated near landings by scattering, chipping, or other techniques.
29. In sensitive foreground areas, stumps should be cut to 8 inches or less in height.
30. Slash, root wads, and other debris will be removed, buried, burned, chipped or lopped to a height of 2 feet or less in sensitive view sheds. If slash is buried, locate in previously disturbed areas where possible.

SKYLINE TREATMENTS

The goal is to minimize the long term visual impacts of skyline operations.

31. Minimize the number of skyline corridors in visually sensitive areas.
32. Select skyline systems with lateral yarding capabilities.

UNIT MARKING

The goal is to minimize the visibility of tree markings post treatment.

- 33. Use *cut tree* (as opposed to *leave tree*) marking in visually sensitive areas.
- 34. Utilize species designation where appropriate to minimize the amount of necessary marking.
- 35. Unit boundaries will be marked with water based paint.
- 36. Additional mitigation techniques (i.e. signing and/or alterations to marking standards) to marking sale boundaries may be feasible in visually sensitive areas. Deviations from 9/10/2010 Regional marking standards (2409.12_70) must undergo formal RO review and approval. (reference attachment: *Procedures For Requesting Non-Recurring Special Provisions For Division C(T) In Region 1*)

RELATED RECREATION AND TRAIL MITIGATION

The goal is to minimize both short term and long term impacts to recreation infrastructure and use.

- 37. Coordinate treatment timing to minimize conflicts with recreation use.
- 38. Temporary road and/or skid trail crossings across designated forest trails will be kept to a minimum.
- 39. Any crossings will be perpendicular to designated forest trails.
- 40. Minimize overlaying skid trails/haul roads on non-motorized system trails.
- 41. If trails are used as skid trails/haul roads, trail cleanup/rehabilitation will be included in the contract.
- 42. Trail width should not be increased.
- 43. Character trees and trees that define the trail corridor should be retained where ever feasible.
- 44. Changes to trail alignment and surfacing will be minimized; the trail will not be straightened nor its surface be changed with an alternate material unless such actions are needed to enhance the trail and protect resources.
- 45. Warning signs will be placed on all trail access points and along the trail where activities are occurring.
- 46. When activities are occurring along open trails, slash will be treated within 100' of the corridor within specified timeframes (check with recreation specialist).
- 47. If trails are temporarily closed due to harvesting, trail tread will be cleared of all slash.

Frequently-Asked Questions in Meeting Objectives for Scenery

Q: What is the timeline for meeting the Scenic Integrity Objective (SIO)?

A: The Scenery Management System Handbook does not specify a timeframe within which the relevant SIO must be met. This is largely due to the differing ecosystems and treatment objectives, many of which are long-term. You should, however, disclose anticipated timeframes for meeting all project objectives, including those for the scenic resources.

Q: How do I deal with situations where existing conditions don't meet the Objective for Scenery?

A: SIO's are developed for broad landscapes. Within these landscapes, there may be some pre-existing features or landscape modifications (power lines, mines, roads, vegetation treatments, and others) that are inconsistent with the assigned SIO. Typically trade-offs for mitigating the inconsistency (where feasible), or changing the SIO are assessed at the project level. Existing conditions (including inconsistencies to assigned SIOs) are evaluated as part of the affected environment. Where opportunities exist to include actions to reduce inconsistencies, they should be discussed with the IDT and incorporated into the project's Purpose and Need or incorporated into one or more of the alternatives.

An example: the presence of old timber units in which created patterns do not meet the assigned SIO. In these situations, rehabilitation techniques such as feathering to softening straight line edges, unit linkage, etc should be brought up early in the process – pre-scoping. In doing so, there may be an opportunity to include actions to mitigate existing conditions and include them in the purpose and need and proposed action. The line officer will decide what course of action (no action, mitigation, plan amendment to change the SIO, site-specific exemption to the SIO, etc) and the effects of that action will be disclosed.

Q: In what circumstances can a temporary SIO of Rehabilitation be used?

A: If an area's existing scenic integrity is lower than the planned objective and/or if the area contains visible disturbances that detract from the natural or socially valued attributes of the landscape due to natural or human-caused alterations, the decision maker may choose to assign a short-term SIO of Rehabilitation in consultation with an interdisciplinary team. The *Landscape Aesthetics* HB defines rehabilitation as “a short term management goal used to return a landscape with existing visual impacts and deviations to a desired level of scenic quality formerly found in the natural landscape.” The Big Eye Book suggests that rehabilitation may be achieved through alteration, concealment or removal of obtrusive elements. (*National Forest Landscape Management, volume 2, chapter 1: The Visual Management System, pg 40*).

Q: In what circumstance might I need a Visual Simulation for a project?

A: Visual simulations can be a powerful communication tool, providing graphic representation of the effects of a project on the scenic resources. Consider using simulations if: the project is within high sensitivity areas; scoping has highlighted public concern about the potential impacts to the scenic resources; design criteria and mitigation measures are necessary to meet Forest Plan direction; and/or alternative(s) are designed to address issues associated with scenic integrity. Visual Simulations are a powerful analysis tool that is fairly expensive to implement. Simulations are typically not created for areas with Low Scenic Integrity Objectives (“Modification” and “Maximum Modification” under VMS). Sources for Visual Simulation software can be found at:

<http://www.3dnworld.com/gallery.php>

Example projects using *Visual Nature Studio* and other software

<http://gis.gsc.wo.fs.fed.us/gis/steering/>

F5 Report on pros/cons /applications of various visual simulation/modeling software

Q: It seems as though timber management would only be appropriate in areas where the assigned SIO is either Low or Very Low.

A: It is important to understand that an SIO does NOT allow or preclude activities from occurring. The SIO is simply the desired condition for the scenic resources of a particular area. Depending on the ecosystem in which the treatment is proposed, an SIO of “low” in a relatively homogenous landscape may be more difficult to achieve than in a more diverse landscape that has an assigned SIO of “High” or “Very High”. This is due to the ability of some landscapes to better absorb changes that go un-noticed. For instance, creating openings on a steep, north facing slope with even aged timber is more difficult to *hide* than creating openings on a landscape with varied

topography and vegetation patterns. The characteristics of the landscape, as opposed to the assigned SIO, determine the type, location, and extent of vegetation treatments feasible in meeting SIOs.

A range of treatment options are available under each Scenic Integrity Objective (SIO). As previously stated, an SIO assignment does not prescribe what types of management activities and tools are, or are not, appropriate. The SIO is simply the desired outcome for the scenic resources upon completion of an action. Project planning, design, and implementation, are crucial in meeting the assigned SIO. How the activity is designed and implemented will lead to a focus on desired outcomes (what's left behind) instead of the action (what we take).

For example: Timber harvest is proposed to reduce fuel loading in a Wildland Urban Interface (WUI). The assigned SIO is "high" due its visibility from adjacent residents and unique combination of landscape attributes (Scenic attractiveness rating of A). This type of scenario will require extra sensitivity in how the fuel reduction is designed and implemented but does NOT eliminate the option of performing vegetation treatments (mechanical or fire use).

Focus should be on the end result – the landscape (post-treatment) should meet the project objective (reducing fuel loading) while also meeting the assigned SIO. If the treatment is designed to mimic natural disturbance regimes and the longer term effects to scenery (increased species and age class diversity) are considered, achievement of a high SIO may be feasible.

Disclosing impacts of the no-action alternative to the scenic resources is imperative. The outcomes (including resulting scenic integrity) of the proposed treatment are more often than not, linked to desired ecological conditions. By doing nothing, resulting effects to the scenic resources can include less variety in the landscape or changes which are outside the HRV or DC for the landscape as a whole.

Q: *How flexible are timber contracts to include listed mitigation measures and design criteria?*

A: Timber contracts, in conjunction with pre-sale design, can accommodate the mitigation and design criteria outlined in this menu. Usually, the TMA (Timber Management Assistant) is responsible for coordinating the project design to ensure all design criteria and mitigation measures contained in the NEPA decision are included. Pre-sale reviews are often conducted as a check point to ensure consistency with the NEPA decision.

Q: *How do I describe the effects to scenery from prescribed burning?*

A: Timing is important. Consider burning in the spring prior to "green-up," to keep the area from looking burned for the remainder of the year. In addition, it is important to keep in mind that "no action" does not equate to "no change". When conducting an effects analysis, disclose the effects of the no action alternative. Often, without a prescribed burn, the area would be susceptible to a large, high intensity, burn. Coordination with fire ecologists and others will be critical in accurately describing anticipated effects to existing vegetation and landscape character in the no action alternative. In addition, the purpose and need for the proposed action should be helpful in disclosing the effects of doing nothing.

For example: The purpose and need for a proposed burn is to manage the existing vegetation toward desired vegetation conditions. With appropriate design, the action would increase the diversity in species and size classes and create a mosaic that better reflects historic fire regimes. These desired vegetation conditions are also referenced in the desired landscape character description. In doing so, the objectives for scenery and the objectives for vegetation are not in conflict with one another and are striving for the same end product.

It is also important to discuss both the short term and long term effects of a proposed burn. Often, the short term effects may be perceived as negative while long term effects may be positive.

Q: *What is Visual Absorption Capacity and how / when should it be used?*

A: Visual Absorption Capacity (VAC), measures the relative ability of a landscape to accept human alteration without loss of landscape character or scenic integrity. VAC can assist in both the location and design of management activities to best blend within the landscape. Terrain (slope) and vegetation cover are the two most important factors in determining the VAC of a given landscape.

Q: *Once my team and I have selected appropriate mitigation measures for a project, will changes in their wording be necessary for inclusion in contracts?*

A: It is critical to work with your contracting officer to ensure mitigation measures identified in the NEPA document, and used as the basis for analysis conclusions, are technically and economically feasible. These discussions should occur prior to completing NEPA to ensure measures can be included in the contract and implemented on the ground. Contracts and project layout should be reviewed to ensure the intended outcomes of design criteria and mitigation measures are included.

References:

Department of Transportation and USDA Forest Service. ***Scenic Byways, A Design Guide for Roadside Improvements***. July, 2003.

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British Columbia Ministry of Forests. ***The Public Response to Harvest Practices in British Columbia at the Landscape and Stand Scale***. February 2006

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US Department of Agriculture. Agriculture Handbook 462. ***National Forest Landscape Management, v. 2, chapter 1: The Visual Management System***. 1974.

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Attachment:

PROCEDURES FOR REQUESTING NON-RECURRING SPECIAL PROVISIONS FOR DIVISION C(T) IN REGION 1

Non-recurring Special C provisions are used to meet management objectives on a particular sale area that are unique and not covered by National or Regional Special Provisions. Forest Supervisors are to request use of special provisions from the Regional Forester. The Regional Forester's authorization shall limit use to a particular sale or group of sales. In rare cases, use may be granted for all sales on a particular National Forest.

The authority to approve and issue Special Provisions cannot be delegated below the Regional Office level (FSM 2400 – Zero Code). In Region 1, approval authority is delegated to the Director of Renewable Resource Management.

To avoid delays and surprises (SURPRISE – YOUR REQUEST IS NOT APPROVED!), adhere to the following:

- Start early – requirements to be included in contracts shall be only those necessary to manage and protect the resource, and must be addressed in the EA or EIS. If it looks like you'll need special language, contact the Sale Administration Specialist in the R.O. during the NEPA process to see if it is something that will be considered.
- Work with your Forest C.O. to develop draft language.
- Remember, just because existing contract language is not exactly the same as the way a particular specialist wants to write their mitigation, is not a justification for a new provision.
- Forest C.O. is to finalize the draft and prepare letter for Forest Supervisor's signature requesting use of the attached language. Letter should include the rationale for a non-recurring provision and **document why existing contract language is not sufficient**.
- Letter is addressed to Regional Forester, attention Director of Renewable Resource Management with a cc to the Regional Sale Administration Specialist.
- Follow same process for new fill ins or deviation from wording of existing fill –ins for C(T)6.4# - CONDUCT OF LOGGING. Existing approved wording is found in R1 Supplement 2409.18-95-3 (Sale Preparation Handbook).
- Follow same process for deviations from boundary marking language in timber designation provisions, use of Designation by Description and Designation by Prescription Special Provisions and for Stewardship Contracts.
- Regional Office will attempt to have approval letter out within 10 working days.